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<p>89-230638/32 MITSUBISHI PETROCH KK 22.12.87-JP-324833 (29.06.89) C07c-07/20 C07c-15/46 Piperazine-1-oxyl(s) - used as polymerisation inhibitor of styrene during distn. C89-102448</p>	<p>A(1-D3, 2-C) E(7-D5)</p> <p>0.01-0.2 wt. % wrt styrene.</p> <p>USE/ADVANTAGE</p> <p>The cpds. are an excellent polymn. inhibitor for styrenes at high temps., and have good solubility for aromatic hydrocarbons such as ethylbenzene and styrene, and are valuable industrially.</p>
<p>Piperazine-1-oxyls of formula (I) are used as polymn. inhibitor for styrene when added during distillation of the styrene.</p> <div> <p style="text-align: center;">(I)</p> </div> <p>R = H, CH₃, C₂H₅, C₃H₇, C₄H₉; X = H, =O, -OR'; and R' = H, 1-16C alkyl, or benzoyl.</p> <p>Amt. of the inhibitor is more than 0.002 wt. %. pref.</p>	<p>EXAMPLE</p> <p>Into a mixt. of purified styrene (40 ml) and 2,2,6,6-tetramethylpiperazine-1-oxyl (200 ppm) was bubbled high purity N₂ gas for 20 mins. The mixt. was heated at 110°C. The amt. of formed polymers were 0.0 wt. % and 0.35 wt. % after 1 hr. and 2 hrs., resp., c.f. 1.0 wt. % after 2 hrs. when using dinitrophenol (200 ppm), and 14.0 wt. % after 2 hrs. without using a polymn. inhibitor. (4ppw85BKPDwgNo0/0).</p> <p style="text-align: right;">J01165534-A</p>